

From	^h 0	to	^h 6	^h 6	to	^h 12	^h 12	to	^h 18	^h 18	to	^h 24
Correction	=	"	-0.55	"	-0.42	"	+0.08	"	-0.25			

Applying to these corrections the general mean correction -0''³₁, we have

From	^h 0	to	^h 6	^h 6	to	^h 12	^h 12	to	^h 18	^h 18	to	^h 24
Correction	=	"	-0.24	"	-0.11	"	+0.39	"	+0.06			

The changes in these corrections are systematic, and it appears that the complete reversion of the seasons at the northern and southern Observatories is not quite accurately allowed for in our refraction tables. The observations 0^h to 6^h R.A. were made during the dry seasons at the Cape, and the tabular refractions used are apparently relatively too large. The observations from 12^h to 18^h were made during the wet seasons at the Cape, and the tabular refractions used are apparently relatively too small. But the changes in humidity at the Cape are simultaneous with considerable changes in mean temperature.

There cannot, I should conceive, be any doubt about the systematic character of the small discordance to which I have called attention; but there will probably be differences of opinion respecting the cause.

Some astronomers will probably consider it to arise from an imperfect correction for changes of temperature, whilst others may consider it due to the neglect of any alteration of refraction as dependent upon moisture. My own opinion is that the last explanation is likely to be the true one. I was led to a similar result many years ago, and I hope before long to be able to investigate the question of the effects of humidity upon refraction.

Ephemeris for finding the Positions of the Satellites of Uranus, 1880.

By A. Marth, Esq.

Angle of position, p_0 , of the major axes, major and minor semi-axes, a and b , of the apparent ellipses described by the satellites, and latitude of the Earth above the plane of their orbits.

Greenwich Noon. 1880.	p_0 °	Ariel.		Umbriel.		Titania.		Oberon.		Lat. of Earth. °
		a	b	a	b	a	b	a	b	
Jan. 15	14.03	15.05	1.88	20.96	2.60	34.38	4.25	45.98	5.72	-7.16
25	13.97	15.14	1.97	21.09	2.74	34.60	4.49	46.27	6.01	7.46
Feb. 4	13.91	15.21	2.07	21.19	2.89	34.76	4.74	46.49	6.33	-7.82
14	13.84	15.26	2.18	21.26	3.04	34.87	4.99	46.63	6.67	8.23
24	13.76	15.28	2.30	21.29	3.20	34.92	5.25	46.69	7.03	8.66

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Greenwich Noon. 1880.	p_0 °	<i>Ariel.</i>		<i>Umbriel.</i>		<i>Titania.</i>		<i>Oberon.</i>		Lat. of Earth. °
		<i>a</i> "	<i>b</i> "	<i>a</i> "	<i>b</i> "	<i>a</i> "	<i>b</i> "	<i>a</i> "	<i>b</i> "	
Mar. 5	13°68	15°27	2°41	21°28	3°36	34°90	5°51	46°67	7°37	-9°09
15	13°61	15°24	2°52	21°23	3°51	34°82	5°75	46°57	7°69	9°51
25	13°54	15°18	2°61	21°15	3°63	34°69	5°96	46°39	7°97	9°89
Apr. 4	13°47	15°10	2°68	21°04	3°73	34°51	6°12	46°14	8°19	-10°22
14	13°42	15°00	2°73	20°90	3°81	34°28	6°24	45°84	8°35	10°49
24	13°38	14°89	2°76	20°74	3°85	34°02	6°31	45°49	8°44	10°69
May 4	13°36	14°76	2°77	20°56	3°85	33°73	6°32	45°11	8°45	-10°80
14	13°36	14°63	2°75	20°38	3°83	33°43	6°28	44°71	8°39	10°82
24	13°37	14°50	2°71	20°20	3°77	33°13	6°18	44°30	8°27	-10°76

Longitudes of the satellites in their orbits, reckoned from the points where they are at their greatest northern elongations.

Greenwich Noon. 1880.	<i>Ariel.</i>		<i>Umbriel.</i>		<i>Titania.</i>		<i>Oberon.</i>	
	long. °	diff. °	long. °	diff. °	long. °	diff. °	long. °	diff. °
Jan. 15	346°86		265°20		247°99		102°53	
25	335°26	1428°40	53°89	868°69	301°47	413°48	9°88	267°35
		'37		'67		'47		'35
Feb. 4	323°63	'34	202°56	'66	354°94	'47	277°23	'34
14	311°97	'31	351°22	'64	48°41	'46	184°57	'34
24	300°28	'29	139°86	'62	101°87	'45	91°91	'33
Mar. 5	288°57	'26	288°48	'61	155°32	'44	359°24	'33
15	276°83	'25	77°09	'60	208°76	'45	266°57	'33
25	265°08	'23	225°69	'60	262°21	'44	173°90	'34
Apr. 4	253°31	'23	14°29	'60	315°65	'45	81°24	'34
14	241°54	'22	162°89	'60	9°10	'46	348°58	'35
24	229°76	'22	311°49	'60	62°56	'47	255°93	'36
May 4	217°98	'23	100°09	'61	116°03	'48	163°29	'38
14	206°21	1428°23	248°70	868°62	169°51	413°49	70°67	267°38
24	194°44		37°32		223°00		338°05	

These values are to be interpolated for the times for which the positions of the satellites are required. The position angles, p , and distances, s , are then found by means of the equations,

$$s \sin (p_0 - p) = b \sin \text{long.}$$

$$s \cos (p_0 - p) = a \cos \text{long.}$$

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